



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,857	03/25/2004	Akio Uchiyama	17570	6685
23389	7590	05/03/2006	EXAMINER	
SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			CONNOLLY, PATRICK J	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/808,857

Applicant(s)

UCHIYAMA ET AL.

Examiner

Patrick J. Connolly

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 24-34 and 39-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 35-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03.25.2004
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I in the reply filed on March 03, 2006 is acknowledged.

Claim 39 was originally restricted to Group II, but should be further restricted to another separate group, as it is drawn to a low coherence interferometer with refractive index compensation, as classified in class 356, subclass 479.

The following action is based on Group I as originally restricted and elected.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Sections of the claims appear to be confused grammatically and require reordered clauses. The following remarks are examples of these translation-type errors and are not necessarily comprehensive.

In claim 1, it is unclear what the relationship is between the "converging means" and the "other end" of the observation path, and what "as to" the light separating means is intended to mean.

Art Unit: 2877

In claim 1, page 139; line 5 refers to “the interference state”. There is insufficient antecedent basis for this limitation.

In claim 1, page 139; line 6 refers to “the distance”. It is unclear what distance between what objects is being referenced here. Further, there is insufficient antecedent basis for this limitation.

In claim 1, page 139; line 11 refers to “the focus light detecting means”. There is insufficient antecedent basis for this limitation. It is further unclear if this light detecting means is different from the previously referenced light detecting means.

In claim 1, page 140; line 1, and the last line of claim 23, page 145; it is unclear what “general accordance” between the preceding limitations is intended to entail.

The confusion pertaining to “light detection means”, the “light receiving system”, “focal position detecting means”, and the “focus light detecting means” continue throughout dependent claims 2-22, as well as independent claim 23.

The following rejection is based upon the claims as best understood by the examiner.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 35-38 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S.

Patent No. 5,321,501 to Swanson et al (Swanson hereafter).

As to claim 1, Swanson discloses a scanning observation apparatus including (see Figure 1A and 6 below):

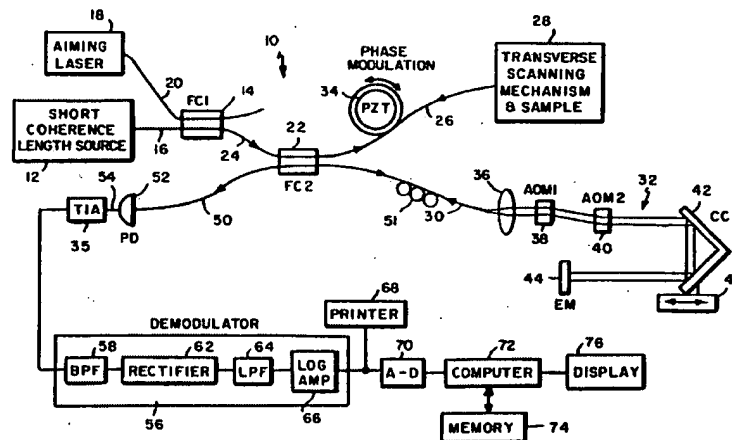


FIG. 1A

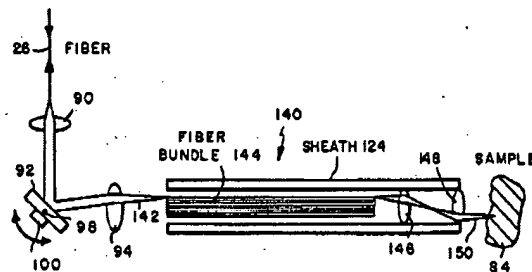


FIG. 6

an optical probe inserted into a body cavity (see endoscope unit of figure 6 above);

a light source for generating light for irradiating light upon a subject portion (12, short coherence source);

converging means for converging the light and irradiating upon the subject portion (figure 6, 146, 148);

optical scanning means for scanning a focal point converged on the subject portion with the converging means in a direction orthogonal to the optical axis direction of the converging means (92, 98, 100);

focal point moving means enabling changing the position of a focal point converged on the subject portion along the optical axis direction of the converging means (figure 692, 96, 98); and light detecting means for detecting return light from the subject portion (figure 1, PD 52);

the scanning observation apparatus comprising:

scan position detecting means for the position of a converging point scanned by the optical scanning means (46); signal processing means (56, 70, 72) for processing signals obtained from the light detecting means; and

image generating means for generating a two-dimensional or higher-dimensional image from signals from the scan position detecting means and signals from the signal processing means (72, 74, 76, see also columns 14-16).

As to claim 36, Swanson discloses detecting the moving position of the converging point by the focal point moving means, and image generating means for generating a two-dimensional or higher-dimensional tomographic image of depth-wise direction from signals from the scan position detecting means and signals from the signal processing means (see the descriptions of figures 3A-3C and 5-7, columns 12-14, especially column 12, lines 34 and 35).

As to claim 36, Swanson discloses optical fiber for introducing light from the light source to the converging means (see figure 1 above);

and comprising separating means (22) for separating the return light from the subject portion from the optical path from the light source, wherein light separated by the separating means is detected by the light detecting means; wherein the optical fiber and the converging means are confocal or near-confocal (see figure 6 above).

Art Unit: 2877

As to claim 38, Tearney discloses a low-coherence light source that is the light source (12);

separating means (22) for separating light from the light source into observation light to the converging means and reference light; and

joining means (22) for joining return light from the subject portion and the reference light so as to effect interference;

wherein the light detecting means detect light from the joining means and wherein interference signals from signals obtained by the light detecting means are extracted by the signal processing means (see column 8, lines 45-68 and column 9, lines 1-31).

***Allowable Subject Matter***

Although claims 1-23 appear to suffer from a poor translation, there does appear to be allowable subject matter. This subject matter may place the claims in condition for allowance if the 112 errors as enumerated above are resolved. The following indication of allowable subject matter is based on the claims as best understood by the examiner via the specification and the figures.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 1, the prior art of record, taken alone or in combination, fails to disclose or render obvious a scanning observation apparatus including: light transmission state changing means provided on the reference light optical path for changing the interference state at the light joining means, wherein the light transmission state changing means are operated and the transmission efficiency of the reference light optical path is reduced, in combination with the rest of the limitations of claim 1.

Art Unit: 2877

As to claim 23, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for setting a scanning observation apparatus including: a first step of reducing the transmission efficiency of the reference optical light path, a third step for restoring the transmission efficiency of the reference optical light path, in combination with the rest of the limitations of claim 23.



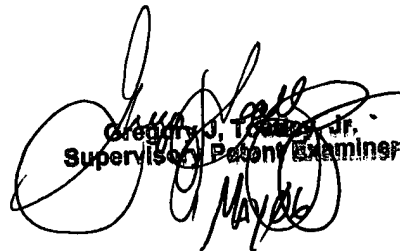
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc/pl

04.27.2006

  
Gregory J. Toatley, Jr.  
Supervisory Patent Examiner